



## GRADE 8 · FUNCTIONS · PRACTICE

# COMPARING FUNCTIONS

**Today's goal:** I can compare properties of two functions each represented in a different way — algebraically, graphically, numerically in tables, or by verbal descriptions.



### Pick your peppers!

Everyone does Mild & Medium. Then climb as high as you can.



**Mild**

Tan the Turtle



**Medium**

Digit the Fox



**Spicy**

Blaze the Dragon



**Extra Spicy**

Pi the Owl

### WATCH MR DJ SOLVE

A table has  $x: 0, 1, 2 \rightarrow y: 4, 10, 16$ . Find its rate and starting value.

- 1 The step is  $10 - 4 = 6$ , and again  $16 - 10 = 6$ .
- 2 At  $x = 0$  the output is 4.

**Answer:** rate 6, starts at 4



**REMEMBER** Rate and start, for both, in the same form — then compare. An output is not a rate.



**MILD**

**Tan the Turtle:** Slow and steady. Warm up!

- 1 Give the rate and starting value of  $y = 5x - 3$ .

Answer



### OOPS ALERT

**Careful on #1!** The slip Mr DJ sees most: Swapped them, or dropped the minus.



**MEDIUM**

**Digit the Fox:** Stretch your brain.

- 2 A graph passes through (0,1) and (4,21). Find its rate and starting value.

Answer

- 3 Of the three above, which has the greatest rate? Which starts highest?

Answer

- 4 "A tank holds 60 litres and drains 5 litres a minute." Write it as an equation.

Answer

- 5 Write a table and a sentence that describe the SAME function.

Answer



SPICY

Blaze the Dragon: Bring the heat!

- 6 Explain why you cannot compare an equation and a table just by looking at their numbers.

Answer

- 7 Function P is  $y = 2x + 9$ . Function Q is  $y = 6x + 1$ . Which is bigger at  $x = 1$ ? At  $x = 4$ ?

Answer



EXTRA SPICY

Pi the Owl: Big-brain challenge.

- 8 Two graphs look equally steep, but one y-axis goes up in 1s and the other in 10s. Which function has the greater rate?

Answer



How did this sheet feel?

☐ Easy for me ☐ Just right ☐ Made me think

**Stuck? Watch Mr DJ explain it**

Step-by-step video lessons on YouTube: [youtube.com/@MathWithMrDJ](https://www.youtube.com/@MathWithMrDJ)

**Brain break: daily puzzles**

Three new math puzzles every day, free:  
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